

Work Order ID 164007

Tuesday, July 11, 2017 7:22:47 AM

164007

Page 1

Item ID: D3628-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Washer, Cupped

Start Date: 7/11/2017 Start Qty: 250.00

250

Cust Item ID:

Required Date: 8/9/2017 Req'd Qty: 250.00

250

Customer:

Reference:

DAS

Approvals:

Process Plan:

13
9-89Date: **JUL 11 2017**

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3628	C						DAS 13 9-89		
100		0.00							
100	PURCHASING					250			QAB 7/11/17
Purchasing	Memo	0.00							
Purchasing	Issue P/O: 37001								
	Email or Ship DXF file to vendor								
	Laser Cut D3628-1 flat pattern and form as per Dwg D3628								
	Possible Supplier: GFI								
	Material release note is required								
110		0.00							
110	Receive & Inspect for Damage & Mat'l Certs								
Packaging	Memo	5.00							
Packaging	Ensure material certification is attached								

250**AUG 16 2017****DAS**
6
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Work Order ID 164007

Tuesday, July 11, 2017 7:22:47 AM

164007

Page 2

Item ID: D3628-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Washer, Cupped
Start Date: 7/11/2017 Start Qty: 250.00 ***250*** Cust Item ID:
Required Date: 8/9/2017 Req'd Qty: 250.00 ***250*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC6- All purchased or subcontracted products Memo	0.00 0.00				250			DAS 38 9-89 AUG 17 2017
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: <u>57051A</u> Memo	0.00 2.50				250			DAS 6 9-89 AUG 17 2017
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 25.00							17/9/5 17/8/18 DAS 21 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Tuesday, July 11, 2017 7:22:46 AM

Page 1

Work Order ID: 164007

164007

Parent Item: D3628-1

D3628-1

Parent Item Name: Washer, Cupped

Start Date: 7/11/2017

Required Date: 8/9/2017

Start Qty: 250.00

Required Qty: 250.00

Comments: IPP Rev:A New Issue 07-05-28 JLM
IPP Rev:B Removed Powder 07-07-11 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3628-1P		Purchased	No			110	Each	0.0000	1	250			
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D3628-1P

Cupped Washer

**

AUG 16 2017

DAS
6
8-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

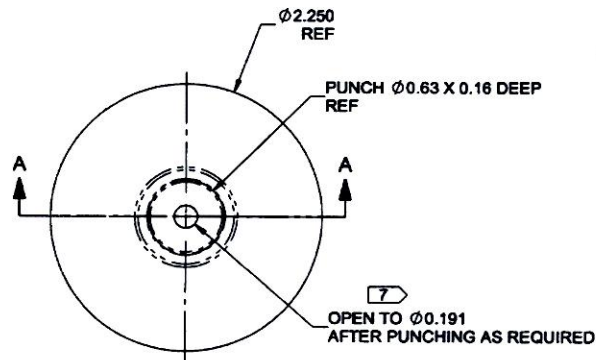
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

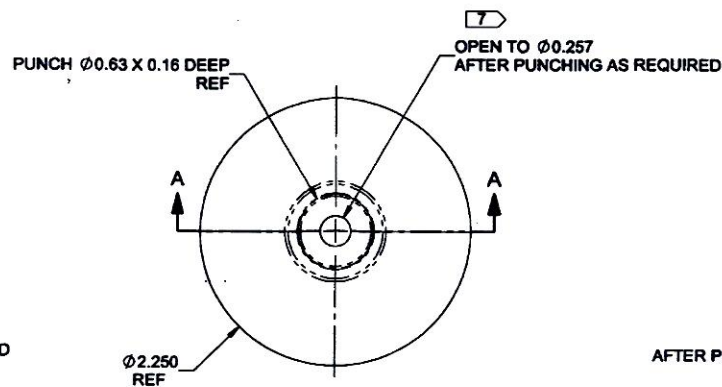
JUL 11 2017

DAS
13
9-89

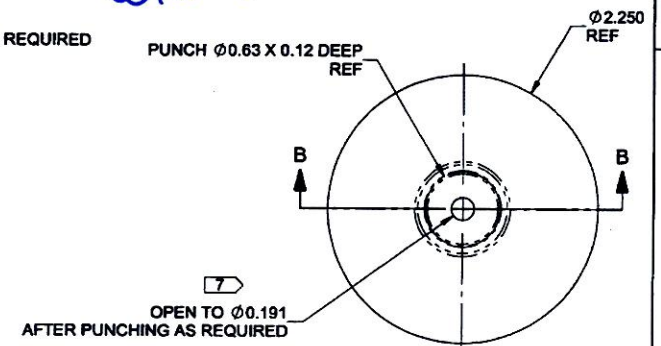
W10: 164007



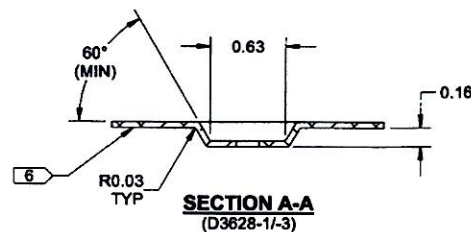
D3628-1 CUPPED WASHER



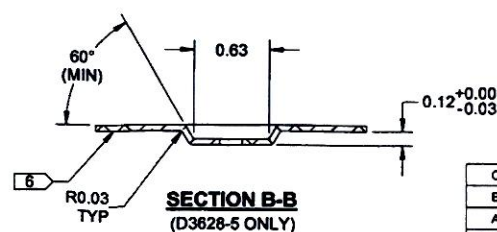
D3628-3 CUPPED WASHER



D3628-5 CUPPED WASHER



SECTION A-A
(D3628-1/-3)

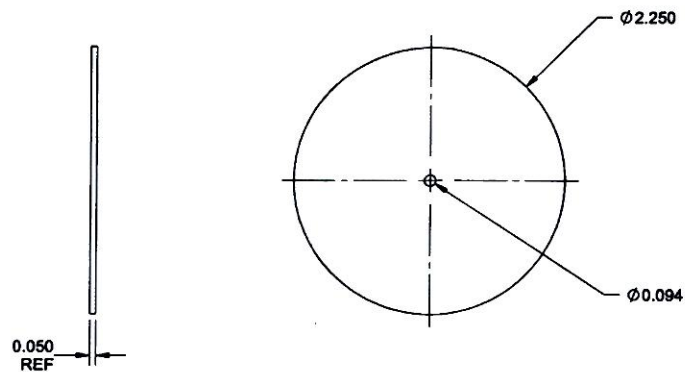


SECTION B-B
(D3628-5 ONLY)

- NOTES:**
- 1) MATERIAL: MADE FROM D3628-1F
 - 2) FINISH: NONE
 - 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.5
 - 7) WHEN DRILLING OUT THE CENTRE HOLE AFTER PUNCHING, ENSURE THAT THE HOLE IS DRILLED CONCENTRIC TO THE CUPPED AREA WITHIN 0.03
 - 8) WEIGHT: 0.02 lbs

RELEASE
R 2012-05-07

C	UPDATE DWG TO CURRENT STD; ADD -5, ZN C1-1.	DC	12.04.19
B	REMOVE POWDER COAT	CB	07.07.09
A	NEW ISSUE	CB	07.08.08
REV.	DESCRIPTION	BY	DATE
DESIGN	DC	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DC		
CHECKED	DC	DRAWING NO.	REV. C
MFG. APPR.	DC	D3628	SHEET 1 OF 2
APPROVED	DC	TITLE	SCALE
DE APPR.	DC	CUPPED WASHER	NTS
DATE	12.04.19	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



D3628-1F FLAT PATTERN

RELEASED
2012-05-07

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET, 18 GAUGE (0.050 THICK)
ANNEALED, 2B FINISH
PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240
REF DART SPEC M304S18GA
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.02 lbs

DESIGN	DC	DART AEROSPACE LTD	
DRAWN	DC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	E	DRAWING NO.	REV. C
MFG. APPR.	E	D3628	SHEET 2 OF 2
APPROVED	AD	TITLE	SCALE
DE APPR.	AD	CUPPED WASHER	NTS
DATE	12.04.19	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT'S PRINTS AND CONTENTS ARE SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO37001

Purchase Order Date 7/11/2017

PO Print Date 7/11/2017

Page Number 1 of 2

Order From :

VC-GFI001

GFI
180 AVENUE LABROSSE
POINTE CLAIRE, QC H9R 1A1
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

JUL 12 2017

Contact Name

Vendor Phone 514 630 4877

Ship To Contact

Ship To Phone

Ship Via: FedEx PI collect

Ship Acct:

Buyer

Diane Baker

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D3628-1P AS PER DWG D3628 Rev C B164007	Cupped Washer	7/25/2017 Yes 7/25/2017 8/8		250.00 Each	\$2.42	\$604.00
Line Total:							\$604.00
2	71401-45 PROCUREMENT QUALITY CLAUSES A005 RIGHT OF ENTRY A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER) A012 CHEMICAL AND PHYSICAL TEST REPORTS A016 PERSONNEL QUALIFICATION A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE) A026 CERTIFICATION OF MATERIAL CONFORMANCE A041 QUALITY MANAGEMENT SYSTEM A042 DART NOTIFICATION BY SUPPLIER A043 RETENTION OF QUALITY DOCUMENT	PROCUREMENT QUALITY CLAUSES	7/25/2017 No 7/25/2017 8/8		1.00	\$0.00	\$0.00

Note:

7/11/2017



180 AVENUE LABROSSE
POINTE-CLAIRE, QC, CANADA H9R 1A1
TÉL.:(514) 630-4877 - FAX:(514) 630-4849

GFI est une division de Thomas & Betts Limitée / GFI is a division of Thomas & Betts Limited



BON DE LIVRAISON / SHIPPING MEMO

DATE DE LIVRAISON / SHIPPING DATE			N° DE BON DE LIVRAISON SHIPPING MEMO NO.	PAGE
JR - DY	MO - MO	AN - YR		
14	08	17	0604815	1/1



VENDU À / SOLD TO

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

EXPÉDIÉ À / SHIP TO

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

CODE DE CLIENT CUSTOMER CODE		N° DE CONTRAT JOB NO.	VOTRE N° DE COMMANDE YOUR PURCHASE ORDER NO.	EXPÉDIÉ PAR SHIP VIA				
DART GFI-0299		0336126	PO37001					
QUANTITÉ QUANTITY	N° DE PIÈCE PART NO.		DESCRIPTION					
250	D3628-1P		CUPPED WASHER					
ITEM 1 C OF C REQ'D								
MFG. JOB# <u>0336126-001</u> QTY <u>250</u>								
DUE DATE: <u>AUG. 15. 2017</u>								

EXPÉDITEUR
SHIPPER

REÇU PAR / RECEIVED BY

DATE

TOUTES LES RÉCLAMATIONS DOIVENT ÊTRE FAITES EN DEDANS DE 5 JOURS DE LA RÉCEPTION.
ALL CLAIMS MUST BE MADE WITHIN 5 DAYS OF RECEIPT OF GOODS.



Intertek

CERTIFICATE OF COMPLIANCE CERTIFICAT DE CONFORMITE



Membre de / A Member of **ThomasBetts**

180 LABROSSE AVENUE
POINTE CLAIRE, QC
H9R 1A1

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7

CERTIFICATE NO.	<u>20</u>	OUR JOB NO	<u>0336126</u>	SHIPPING MEMO	<u>0604815</u>	
ITEM	QUANTITY	PURCHASE ORDER	PART NUMBER	REV	NAME	DWG ISSUE
<u>1</u>	<u>250 PCS</u>	<u>PO37001</u>	<u>D3628-1P</u>	<u>C</u>	<u>CUPPED WASHER</u>	<u>C</u>
MATERIAL		SUPPLIED BY		MAT. REL. NO.		
<u>AMS 5513 304 ANN</u>		<u>TW METALS / NORTH AMERICAN STAINLESS</u>		<u>H/N # 235W</u>		

	PROCESS	PROCESSOR	RELEASE NOTE #
1	<u>FIRST ARTICLE INSPECTION REPORT ON FILE</u>	<u>GFI</u>	<u>N/A</u>
2	<u>REF. GFI MANUFACTURING JOB NUMBER</u> <u>0336126-001 (250 PCS)</u>	<u>GFI</u>	<u>N/A</u>
3	<u></u>	<u></u>	<u></u>
4	<u></u>	<u></u>	<u></u>
5	<u></u>	<u></u>	<u></u>
6	<u></u>	<u></u>	<u></u>
7	<u></u>	<u></u>	<u></u>
8	<u></u>	<u></u>	<u></u>
9	<u></u>	<u></u>	<u></u>

WE HEREBY CERTIFY ALL THE PARTS COVERED BY THIS CERTIFICATE HAVE BEEN MANUFACTURED FROM MATERIAL SUPPLIED ON RELEASE NOTE SHOWN ABOVE AND THAT ALL PARTS HAVE BEEN INDIVIDUALLY INSPECTED AND CONFORM TO THE DRAWINGS AND PURCHASE ORDER REFERENCED ABOVE.

DATE 14 AUGUST 2017

G.F.I. Q.C. REP.






METALS
O'Neal High-Performance
Metals Group

CERTIFICATIONS

FRAUD AND FALSIFICATION STATEMENT

The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under statutes including federal law. Title 18 chapter 47.

CERTIFICATE OF COMPLIANCE

This certificate of compliance certifies that the material supplied on the purchase order number below complies in all respects with the material description and procurement specifications.

MERCURY FREE STATEMENT

TW Metals certifies that the supplies furnished under this contract contain no metallic mercury or mercury compounds, and have not come in contact with mercury or alpha bearing instruments while in the possession of TW Metals Inc.

Customer Name:

BFI, Inc

Purchase Order No.:

0089253

Item number:

0002

Shipper/Invoice No.:

12107120

Material:

304

Manufacturing Mill:

NA-S

Specification:

Ams 5573

Heat / Lot No.

235W

Size:

050

Quantity:

1 pc

Signature:

Jane Clark

Date:

5/16/17



Initiated Performance Metals

Customer Name: TW Metals - NY

Width: 48.0000 Length: 120.0000

Customer PO: D12017724

Size: 0.05000

UPM Sales Order: 627379

Customer P/N:

Date: 11/05/2017

Packing List Number: 23690-1

Description/Form: STAINLESS 304L - SHEET

Quantity: 82 lb. 1 pc.

Heat Number: 235W

Ingot: 02235W A

NORTH AMERICAN
STAINLESS

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 248146 01

Mail To:

Ship To:

Date: 12/20/2016 Page: 1

Customer: 0018 001

UNITED PERFORMANCE METALS
3475 STOKES ROAD
HAMILTON, OH 45015UNITED PERFORMANCE METALS
3475 STOKES ROAD
HAMILTON, OH 45015

Steel: 302/304/304L

Finish: 2B

Your Order: M01030146

NAS Order: AN 0730596 01

Corrosion: ASTM A262/15; 1800end-0K

PRODUCT DESCRIPTION:

S/S COIL, C.R. ANNEALED & PICKLED; UNS 30400/30403/30200
ASTM A240/15b, A480/15, A566/15, ASME SA240/15, SA480/15, SA566/15
CHEM ONLY ON FOLLOWING ASTM: A276/15, A479/15, A484/15, A312/15
CHEM ONLY ON FOLLOWING ASME: SA312/15, SA479/15
AMS 5511B/5513J/5516P XHEX; MIL-S-5059D XND3 (X CPN HEAS); MIL-1043B
MACE HR0175/ISO 15156-3:2009 A, HR0103/07; Q967660-X Y HOG PERM
HEX. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED
PHI 304L/304/302; AMS 5511H

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
EN 10204:2004 3.1; RoHS 1 & 2 Compliant
Material is Free of Radioactive Contamination
Steel Making Process: EAF, AOD, & Cont. Casting
Product Mfg. by a Quality Mgt. Sys. in Conf. w/ISO 9001
*Melted & Manufactured in the USA; Mat'l is DPAAS Compliant

Product ID #	Coil #	Thickness	Width	Weight	Length	Mark	Pieces	COMMODITY CODE
02235W A	* 02235W A	.0500	48.0000	15,830	COIL	2392.0	1	I 00624

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

CHEMICAL ANALYSIS CM(Country of Italy) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/14a

HEAT	CH	C %	CR %	CU %	MN %	EO %	N %	NI %	P %	S %
235W	US	.0155	18.1390	.3465	1.8175	.2785	.0311	8.0560	.0290	.0018
SI %										
.2520										

MECHANICAL PROPERTIES

Product ID #	Coil #	UTS ksi	20C .2% YSI	20C ELONG % .2"	Hard RB	Tail Hard	Grain No.	D Per P.N.	UNQC
02235W A	02235W A	F T 94.77	43.19	58.82	82.00	85.00	9.00	2.52	As per specification
By: <i>[Signature]</i>									
Spec: ALL									
Pages: 1 Date: 12/20/2016									

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

KRIS LARK

12/20/2016

